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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/364,256	07/30/99	SINES	E 79,955

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EXAMINER

PEREZ, G

ART UNIT

PAPER NUMBER

2834

DATE MAILED: 10/26/00

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.

09/364,256

Applicant(s)

SINES, EDDIE

Examiner

Guillermo Perez

Art Unit

2834

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

Status

- 1) ☒ Responsive to communication(s) filed on 15 August 2000.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 13-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 13-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- 11) ☒ The proposed drawing correction filed on 15 August 2000 is: a) ☒ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- a) ☐ All b) ☐ Some * c) ☐ None of the CERTIFIED copies of the priority documents have been:
1. ☐ received.
2. ☐ received in Application No. (Series Code / Serial Number) _____.
3. ☐ received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. & 119(e).

Attachment(s)

- 15) ☒ Notice of References Cited (PTO-892)
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 17) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 18) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 19) ☐ Notice of Informal Patent Application (PTO-152)
- 20) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 15 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 15 recites the limitation "predetermined laminations" in line 4. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claim 14 rejected under 35 U.S.C. 102(b) as being anticipated by Kanai (JP 402290138A).

Referring to claim 14, Kanai discloses a method for cooling electrical devices having layers of electrically conductive material (10) wound on a core (2) comprised of the following steps:

placing a thermally conductive strip (11) having a first and a second end, capable of conducting heat from between pre-selected layers of the electrically conductive material said strip extending through the layers of electrically conductive material wound

on the core and said first and second end of the thermally conductive material extending outside of the area covered by the electrically conducting material; and

conducting the heat from the first and second ends of the thermally conductive material (abstract and figures 1-3 and 6).

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

2. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kanai in view of Herron (U. S. Pat. No. 3, 671, 787).

Kanai discloses a method for cooling electrical devices as described on item 1 above. However, Kanai does not disclose the steps of: placing a thermally conductive strip having a first and second end between predetermined laminations of the core, said first and second ends of the thermally conductive strip extending outside of the core.

Herron discloses the steps of:

placing a thermally conductive strip (12, 13) having a first and second end between predetermined laminations (11) of the core, said first and second ends of the thermally conductive strip extending outside of the core, for the purpose of improving cooling efficiency in the dynamoelectric device.

It would have been obvious at the time the invention was made to modify the method for cooling electrical devices of Kanai and provide it with the steps of: placing a thermally conductive strip having a first and second end between predetermined laminations of the core, said first and second ends of the thermally conductive strip

extending outside of the core as disclosed by Herron, for the purpose of improving cooling efficiency in the dynamoelectric device.

3. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kanai in view of Davis (U. S. Pat. No. 5,949,170).

Kanai discloses a method for cooling an electrical device having layers of electrically conductive material (10) wound on to a laminated core (2) having a heat generating component comprising the steps of:

placing one or more flat, thermally conductive strips (11) in contact with the heat generating component (10) across its entire length (figure 1), said thermally conductive strip extending outside of the area covered by the electrically conductive material and core and in physical contact with the electrically conductive material, thereby receiving heat from the heat generating component; and

removing heat from the thermally conductive strips. However, Kanai does not disclose placing one or more non-metallic, flat, thermally conductive strips in contact with the heat generating component.

Davis discloses the placing of one or more non-metallic (column 2, lines 23-31), flat, thermally conductive strips (21), for the purpose of improving thermal conductivity in the coils.

It would have been obvious at the time the invention was made to modify the method for cooling an electrical device as disclosed by Kanai and provide it with one or more non-metallic, flat, thermally conductive strips as disclosed by Davis, for the purpose of improving thermal conductivity in the coils.

4. Claims 13 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Herron in view of J. P. Glass (U. S. Pat. No. 3, 123, 747) and further of Kanai in view of Jarczynski (U. S. Pat. No. 5,091,666).

Herron discloses an electric motor (figure 1) comprising:

one or more laminations of a metallic material (11) forming an outer casing of the electric motor;

one or more circular flat, thermally conductive disks (12,13) placed between pre-selected layers of the motor laminations, said conductive disks conducting heat generated by an electrical current flowing within the motor to an edge of the conductive disk outside of the area covered by the motor laminations. However, Herron does not disclose one or more circular non-metallic, flat, thermally conductive disks placed between pre-selected layers of the motor laminations; nor an electrically conductive material wound in a plurality of layers within the laminations so as to form an electric field that drives an armature when an electrical current is applied; thermally conductive strips placed between pre-selected layers of the electrically conductive material, said thermally conductive strip extending outside of the area covered by the electrically conductive material; nor means for conducting heat at the end of the conductive disk and strips.

J. P. Glass discloses one or more circular non-metallic, flat, thermally conductive disks placed between pre-selected layers of the motor laminations, for the purpose of improving cooling performance in the stator structure.

Kanai discloses an electrically conductive material wound in a plurality of layers within the laminations so as to form an electric field that drives an armature when an electrical current is applied;

thermally conductive strips placed between pre-selected layers of the electrically conductive material, said thermally conductive strip extending outside of the area covered by the electrically conductive material, for the purpose of dissipating heat from the coils created during operation.

Jarczynski discloses means (46, 26, 28) for conducting heat at the end of the conductive disk and strips, for the purpose of removing heat created in the motor structure towards the atmosphere; and

one or more thermocoolers adjacent to and touching the outer casing of the motor to conduct heat from the metallic laminations forming the outer casing of the motor.

Response to Arguments

Applicant's arguments with respect to claims 13-17 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Refer to the Notice of References Cited for other art related to the claimed invention.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Guillermo Perez whose telephone number is (703) 306-

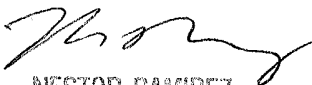
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5443. The examiner can normally be reached on Monday through Thursday and alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor Ramirez can be reached on (703) 308 1371. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305 3432 for regular communications and (703) 305 3432 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308 0956.

Guillermo Perez
October 23, 2000


NESTOR RAMIREZ
SUPERVISORY PATENT EXAMINER
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